

Mr. BRYANT. The lowest tar brand of Merits, the Ultima, actually has the highest concentration of nicotine, which would seem to imply that in making the Ultima, you use a tobacco blend with a higher concentration of nicotine than you used in making the Merit filters. Is that true?

Mr. CAMPBELL. We have been trying to get the background information to the equivalent of this chart from Dr. Kessler's office ever since it was published and we can't explain this data. We don't use this kind of measurement. So it's very difficult for us to answer.

Mr. BRYANT. You are in on the decisions about how to make the product. Did you use a tobacco blend with a higher concentration of nicotine in making Ultima than you used in making Merit filters?

Mr. CAMPBELL. Absolutely not. In fact, I have a chart along with me, if you're willing to take the time to have my colleague Mr. Burnely explain to you, for instance, the difference in how we make a Merit filter and a Merit Ultima and how we end up with 8 milligrams of tar and 0.6 milligrams of nicotine on a Merit filter and how we get it down to 1 milligram and 0.1 milligram of nicotine.

It will take a few minutes, but if you'd like to take the time, we'd be happy to explain to you how we do that.

Mr. BRYANT. What I am interested in is knowing whether or not you used a tobacco blend on purpose that has a higher concentration of nicotine in one cigarette than you did in another one.

Mr. CAMPBELL. No. We'd be happy to show you. What we do with the Merit Ultima is that we use some different grades of tobacco, but we only use 40 percent real tobacco, leaf tobacco, then we use reconstituted or processed tobacco and expanded tobacco. Then we—but the expanded tobacco means that you're taking the weight down.

Mr. BRYANT. The key question—

Mr. CAMPBELL. So, in fact, you're taking the—there is no concentration of nicotine in these low tar cigarettes because of the way we've reduced the weight.

Mr. BRYANT. But the key question is whether you knowingly use a tobacco blend with a higher concentration of nicotine in one type than you do in another type.

Mr. CAMPBELL. We are not using—when it ends up, it is inside the rod and the way it is delivered to the consumer, we are delivering, in no uncertain terms, 1 milligram of tar and 0.1 milligrams of nicotine.

Mr. BRYANT. Let me just get a yes or no answer from you about this. Do you use a tobacco blend with a higher concentration of nicotine in making Ultima than you use in making Merit filters? Yes or no?

Mr. CAMPBELL. Are you taking into account both the leaf tobacco, the reconstituted and the expanded tobacco? The answer would be no.

Mr. BRYANT. Just the leaf tobacco.

Mr. CAMPBELL. That's only 40 percent of the tobacco.

Mr. BRYANT. OK. Well, with regard to that portion of the tobacco, yes or no?

Mr. CAMPBELL. That tobacco is there for taste and flavor. We need the taste and flavor.

Mr. BRYANT. I am just asking you. If you say it is 40 percent, then let us talk about 40 percent. With regard to that 40 percent of the cigarette that is leaf tobacco, do you use a tobacco blend with a higher concentration of nicotine in Ultima than you use in Merit filters?

Mr. CAMPBELL. Yes, but it's irrelevant in terms of what the smoker gets in the end, because we use other tobaccos with lower nicotine to counteract that.

Mr. BRYANT. Mr. Sandefur, let me ask you a question about the Barclay cigarette that Brown & Williamson makes. I think Barclay is marketed as a low tar cigarette, is that right?

Mr. SANDEFUR. Yes. It's marketed as an ultra-low tar cigarette, as agreed to by FTC and Federal Court.

Mr. BRYANT. I understand that the nicotine content of the tobacco used in Barclay cigarettes is 2.3 percent or higher. Is that correct?

Mr. SANDEFUR. 3.3 percent or higher.

Mr. BRYANT. 2.3 percent or higher.

Mr. RIEHL. That certainly sounds high to me.

Mr. BRYANT. Could you identify the gentleman who just spoke?

Mr. SANDEFUR. That was Mr. Riehl, in charge of our R&D. You must understand that the FTC established the rating for Barclay. The machine that was used to measure Barclay, when we manufactured Barclay and we measured it, the machine, the FTC methodology measured it at 1 milligram tar. Exception was taken to that because of the design of the cigarette.

We took it to court. The court decided that we should talk with FTC and go with FTC, which we did, and the numbers are on the pack.

Mr. BRYANT. Let us stick with the Barclay cigarette. Are you saying that you do not know whether or not Barclay cigarette has a nicotine content from the tobacco of 2.3 percent or higher?

Mr. SANDEFUR. No, sir, I don't, because we don't—I don't make it a habit of looking at nicotine on my cigarettes.

Mr. BRYANT. The average nicotine content in tobacco is 1.7 percent. So if 2.3 percent is correct, it is 35 percent higher than the nicotine content in the average tobacco leaf. My question is do you deliberately mix the tobacco for the Barclay cigarette so that it will have a much higher concentration of nicotine?

Mr. SANDEFUR. I'm going to ask Mr. Riehl to answer that question. He is the blender on the cigarette.

Mr. RIEHL. No, sir. We blend for taste, not nicotine.

Mr. BRYANT. In order to obtain your goals with regard to taste, do you deliberately mix the tobacco for the Barclay cigarette so that it will have a much higher concentration of nicotine?

Mr. RIEHL. No, sir, we don't. We blend for taste.

Mr. BRYANT. Go ahead. I yield.

Mr. WAXMAN. I find this unbelievable. If you listen to what they're saying, they blend for taste, but they also say nicotine adds to the taste. So it seems to me that what's happening is you're blending the higher tobacco, the higher nicotine tobacco in some of these low tar cigarettes so it comes out, even though it may be low tar, with a higher nicotine label.

And you may be right. You may think that's for taste, but it also produces a higher nicotine level. Isn't that what's happening in your products?

Mr. CAMPBELL. No, it isn't, sir, because we compensate. You're talking about milligrams per gram. We compensate in our ultra low tar cigarettes by using reconstituted tobacco and expanded tobacco. So that what the smoker gets is what we told—we say in our FTC advertisements, 0.1 milligram of nicotine.

But we basically, as I said, also, in my opening remarks, we do not blend for nicotine. Nicotine is a result. If you would join us, like the FDA experts did, you would find that we actually only ever measure nicotine in two places; one, before the tobacco enters the factory and then 18 months later after it's a finished product.

Mr. WAXMAN. Let me just ask you a factual question. Do you use a higher, a richer nicotine tobacco in your low tar cigarette products?

Mr. CAMPBELL. The total—there's only 484 milligrams of tobacco in an Ultima, in a Merit Ultima. There is 680 milligrams of tobacco in a full-fledged Merit. That's how the difference is—

Mr. WAXMAN. I'm not asking about tobacco. I'm asking about nicotine concentration. Is there a higher nicotine concentration in that tobacco because of blending?

Mr. CAMPBELL. Forty percent of the blend in a Merit Ultima has relatively higher alkaloid tobaccos. Then you have 60 percent of a Merit Ultima's blend is expanded and processed tobacco where the nicotine has been reduced.

So the consumer gets, in the end, 0.1 milligram of nicotine. We design cigarettes according to tar and that's why it's very difficult for all of us to express it as nicotine. We design in the early stages for tar.

Mr. WAXMAN. When you look at the concentration itself, which has a higher concentration, the Ultima or the regular?

Mr. CAMPBELL. That's a weight measurement. Weight measurement is not what the smoker gets, sir.

Mr. WAXMAN. My question is whether the nicotine concentration is higher? That should be an answer yes or no.

Mr. CAMPBELL. You are talking about concentration as if it's—this is a—how we design a cigarette is we use a combination of weight and volume. What we're talking about is what the smoker actually gets.

Mr. WAXMAN. I'm asking about the concentration of nicotine in the tobacco. You have blended tobacco. I want to know if there's a higher concentration in that tobacco in the Ultima than there would be in the regular cigarette?

Mr. CAMPBELL. It's there for taste, yes, sir.

Mr. WAXMAN. Thank you very much.

Mr. BRYANT. Mr. Chairman, could I have—

Mr. WAXMAN. Yes.

Mr. BRYANT. Is it the fact that some tobacco leaf has a higher concentration of nicotine than another tobacco leaf?

Mr. CAMPBELL. Of course, yes.

Mr. BRYANT. Do you, when you are making cigarettes, ever choose a tobacco leaf with a higher concentration of nicotine on purpose?

Mr. CAMPBELL. We do not choose it for its nicotine, no, sir.

Mr. BRYANT. See, you always qualify the answers and that is why we get impatient and why we do what Mr. Horrigan does not like, we jump in and cut you off. I have asked you a simple yes or no question. It does not require a qualification.

Do you sometimes choose a tobacco leaf with a higher concentration of nicotine than at other times in order to make a specific cigarette?

Mr. CAMPBELL. I can tell you under oath we blend for tar, sir. We do not blend for nicotine. I'm sorry. That's all I can answer.

Mr. BRYANT. Do you know which tobacco leaves have more nicotine than other tobacco leaves?

Mr. CAMPBELL. We know that from measurement, but we do not blend for it. I'm sorry. I really can't answer any further in that regard.

Mr. BRYANT. No need to apologize. Keep the microphone over there. You do not need to keep leaning back. I have some questions for you. You know some tobacco leaves have more nicotine than other tobacco leaves.

Mr. CAMPBELL. Yes, sir.

Mr. BRYANT. Is that correct?

Mr. CAMPBELL. Our people know that, yes.

Mr. BRYANT. For whatever reason, do you occasionally decide to use a higher nicotine content tobacco leaf to manufacture one brand than you do to manufacture another of your brands?

Mr. CAMPBELL. That's the end result. As I say, we do not design the product that way. We design the product for its category in the market, which is generally a tar category.

Mr. BRYANT. Why are you concerned about the implications of my question if nicotine is not addictive?

Mr. CAMPBELL. I think that this has been used extensively as if we have been undertaking some kind of sinister practice. We really resent that and we really have no sinister practices at all. We go about blending our cigarettes in order to make them competitive in the marketplace. And as I say, they're blended for tar.

Mr. BRYANT. Well, if nicotine is not addictive and it has no harmful characteristics in particular, why are you—or why is Mr. Johnston—somebody, suing ABC for alleging that you are manipulating the nicotine? If all you are really doing is manipulating it for the purposes of flavor, why do you not just say so—what if we are, it does not hurt anything. What is your answer to that?

Mr. CAMPBELL. The ABC charges are for the misrepresentation that we are spiking our products with nicotine.

Mr. BRYANT. My point is why bother to refute them if all you need to say is, well, so what, all we are doing is doing it for flavor, which is what you are saying to us today. If you are only doing it for flavor, why are you worried about the implications of that program?

Mr. CAMPBELL. We were very worried about the fact that our stock dropped the next day because there were some implications that we were doing something sinister.

Mr. BRYANT. My point is why not simply say there is nothing wrong? If you believe it, why do you not just say—there is nothing

wrong with manipulating the levels of nicotine, if it is only for flavor?

Mr. CAMPBELL. We don't do it. That's why I won't acknowledge it. I'm sorry.

Mr. BRYANT. I have just heard you say here that, yes, we do use tobacco leaves with varying levels of nicotine or to achieve a goal of a particular flavor. You have said that.

Mr. CAMPBELL. Yes, I have.

Mr. BRYANT. I rest my case. I do not think it adds up. I think I am over my time, Mr. Chairman.

Mr. CAMPBELL. Excuse me. Just one final point on that, Congressman Bryant. If we would have had available the FDA data on this brand family, we would have been able to do a better job of explanation. We have been asking repeatedly for this information, starting almost 2 weeks—as soon as we received the testimony, and we've just been unable to respond because we couldn't get the data.

So if you'd like a more—that doesn't help us answer your questions.

Mr. BRYANT. The data that would be necessary to answer my questions is exclusively in your possession, and that is—what kind of tobacco are you putting in your cigarettes. I do not think anybody else has that. I yield my time back.

Mr. WAXMAN. Thank you, Mr. Bryant. I'm going to try to clarify an issue that is getting to be very complicated and see if I can make it clear to everybody listening to this, although I think this panel understands it because I think what's happening is there's a manipulation of the information.

What this panel keeps on saying is that concentration is irrelevant to the FTC numbers. Dr. Spears cited Dr. Benowitz for that very conclusion. But the reason that the concentration is irrelevant to the FTC numbers is because the FTC numbers are irrelevant. The FTC numbers are, as Dr. Kessler testified before us, filled with difficulties because they can be distorted.

I have a chart that I think that would be the best way to talk about some of the distortions in the FTC numbers and why it's irrelevant.

The industry's argument is based on the FTC numbers and I would submit that the FTC numbers are meaningless. The tobacco industry has invented a variety of ways to manipulate the tests, according to Dr. Kessler. He went through many of these ways and here's a list of them. The FTC numbers are based on a smoking machine. That smoking machine could have two problems with it.

The smoking machine can distort what the actual smoker is receiving by way of nicotine because of the ventilation in the cigarette itself. The second thing that can be done to distort what the machine would take in is the faster burning cigarette. So if it's a faster burning cigarette, the machine will not take in as much nicotine. That's not what happens to smokers.

And Dr. Benowitz, rather than being quoted appropriately for Dr. Spears' proposition, concludes, and I want to read it, "We conclude that smokers of low nicotine cigarettes do not consume less nicotine." That is our point. The reason they don't consume less nicotine is because the FTC numbers don't make any difference. It's

what the smokers will actually take in, and that is related to concentrations.

I have a copy of an American Lung Association document, which I, without objection, will submit to the record, Exhibit 20.

This was a 1993 study. The study looked at the levels of cotinine, a biological mark of nicotine intake in the bodies of 300 smokers. The study found, and I quote, "Subject to smoked low yield brands at continued levels that were cotinine levels that were virtually indistinguishable from those of smokers using high yield brands."

Well, if that's the case, the smoker is getting as much nicotine from these so-called low tar/low nicotine cigarettes as someone using a regular cigarette, which it doesn't even pretend to be lower in nicotine.

I also wanted to make another point to illustrate this issue. We have a study by a tobacco industry consultant by the name of Dr. Gio Gori, and without objection, this will be introduced in the record as Exhibit 22.

[Testimony resumes on p. 791.]

[Exhibits 20 and 22 follow:]

22. HENNINGFIELD, J. E. (1984). Behavioral pharmacology of cigarette smoking. In *Advances in Behavioral Pharmacology* (T. Thompson, P. B. Dews, and J. E. Barrett, eds.), Vol. 4, pp. 132-210. Academic Press, New York.
23. HILL, P., AND MARQUARDT, H. (1980). Plasma and urine changes after smoking different brands of cigarettes. *Clin. Pharmacol. Ther.* 27, 652-658.
24. HILL, P., HALEY, N. J., AND WYNDER, E. L. (1983). Cigarette smoking: Carboxyhemoglobin, plasma nicotine, cotinine and thiocyanate vs. self-reported smoking data and cardiovascular disease. *J. Chronic Dis.* 36, 439-449.
25. HINDS, W., FIRST, M. W., HUBER, G. L., AND SHEA, J. W. (1983). A method for measuring respiratory deposition of cigarette smoke during smoking. *Amer. Ind. Hyg. Assoc. J.* 44, 113-118.
26. JACOB, P., WILSON, M., AND BENOWITZ, N. L. (1980). Improved gas chromatographic method for determination of nicotine and cotinine in biological fluids. *J. Chromatogr.* 143, 203-206.
27. KOZLOWSKI, L. T., RICKERT, W. S., POPE, M. A., ROBINSON, J. C., AND FRECKER, R. C. (1982). Estimating the yield to smokers of tar, nicotine and carbon monoxide from the lowest yield ventilated filter cigarettes. *Brit. J. Addict.* 77, 159-165.
28. KYEREMATEN, G. A., DAMIANO, M. D., DVORCHIK, V. H., AND VESELL, E. S. (1982). Smoking-induced change in nicotine disposition: Application of a new HPLC assay for nicotine and its metabolites. *Clin. Pharmacol. Ther.* 32, 769-780.
29. LYNCH, C. J. (1984). Half-lives of selected tobacco smoke exposure markers. *Eur. J. Respir. Dis. Suppl.* 133, 63-67.
30. PILLSBURY, H. C., BRIGHT, C. C., O'CONNOR, K. J., AND IRISH, F. W. (1969). Tar and nicotine in cigarette smoke. *J. Assoc. Anal. Chem.* 52, 458-462.
31. RICHARDS, T. (1984). Can we have safer cigarettes? *Brit. Med. J.* 289, 1374-1375.
32. ROSENBERG, J., BENOWITZ, N. L., JACOB, P., AND WILSON, K. M. (1980). Disposition kinetics and effects of intravenous nicotine. *Clin. Pharmacol. Ther.* 28, 517-522.
33. RUSSELL, M. A. H., WILSON, C., PATEL, U. A., FEYERABEND, C., AND COLE, P. V. (1975). Plasma nicotine levels after smoking cigarettes with high, medium and low nicotine yields. *Brit. Med. J.* 2, 414-416.
34. RUSSELL, M. A. H., JARVIS, M., IYER, R., AND FEYERABEND, C. (1980). Relation of nicotine yield of cigarettes to blood concentrations in smokers. *Brit. Med. J.* 280, 972-976.
35. SCHACHTER, S. (1981). Pharmacological and physiological determinants of smoking. *Ann. Intern. Med.* 88, 104-114.
36. SJOSTRAND, T. L. (1951). The *in vitro* formation of carbon monoxide in blood. *Acta Physiol. Scand.* 24, 314-332.
37. STEWARD, R. D., STEWART, R. S., STAMM, R. S., STAMM, W., AND SELEN, R. P. (1976). Rapid estimation of carboxyhemoglobin level in fire fighters. *J. Amer. Med. Assoc.* 235, 390-392.
38. Surgeon General (1981). The health consequences of smoking: The changing cigarette. In *Report of the Surgeon General*. Department of Health and Human Services, Washington, D. C.
39. VESELL, E. S., AND PENNO, M. B. (1983). Assessment of methods to identify sources of interindividual pharmacokinetic variations. *Clin. Pharmacokinet.* 8, 378-409.

Mr. WAXMAN. Like the American Lung Association and Dr. Benowitz, Dr. Gori found, and I quote, "FTC analytic determinations are poor predictors of relative intake of nicotine." So when this panel tells us that the FTC numbers show that nicotine rates are going down, they're relying on FTC numbers that they are able to affect, and which are not a predictor of what is happening to the smoker.

Now, if it's not a predictor of what's happening to the smoker, you would expect that maybe in smokers who have died, you can measure some of those nicotine levels. Dr. Gori's chart on page 318, showed that the individual plasma nicotine values as a function of FTC nicotine yield of cigarette smoke was not relevant and, in fact, plasma levels showed the same levels of nicotine.

This is relevant to the question of Dr. Spears' presentation in 1981, where he wrote that when the cigarettes were reduced for tar, the nicotine levels through a blending process could be greater and could result in a greater nicotine concentration.

Now, Dr. Spears says that concentration doesn't make any difference because it's the FTC numbers that make a difference. The FTC numbers do not make the difference. It's the concentration in the cigarettes because of the blending. If you have a higher concentration because of the blending in the cigarette which results in a higher nicotine level or concentration that is getting to the smoker, that is something the smoker will experience.

That will keep the smoker, if you accept the proposition, which this group does not, but which every other scientific—every other medical group that's looked at it would submit, nicotine is, in fact, addicting.

I was impressed by the statement that you blend tobacco for taste. You blend, as Mr. Suber, from the RJR Company, said, even though Mr. Johnston denies it, to achieve levels that the consumers have come to expect.

This is all a very slick way, in my estimation, of saying that it's really being done, you can say for other reasons, but for the levels of nicotine that consumers will experience. Mr. Suber said in order to deliver to the consumer a product that he wants, which contains a consistent level of nicotine, so we have to blend the tobaccos accordingly. So we do control it. They control it. They control the levels of nicotine by controlling the levels of concentration. This is one way we know that levels of nicotine can be manipulated.

Now, I want to ask a question of Mr. Johnston. You said that you want to advertise for adults to change brands. Well, I'll take you at your word, but tell me what this ad is all about. What adult is going to be influenced by this ad? "There's something for everyone at Joe's Place." There's Joe Camel. There's all these people having a wonderful time.

I'm an adult. I don't understand it. What do your advertising people have in mind when they produce have this ad to appeal to adults and not children?

Mr. JAMES JOHNSTON. The setting for that ad is a nightclub, a venue accessible ordinarily to people 21 years and older, who would understand what a nightclub is like and people having fun. The ad also talks about the smoothness of the product and it—

Mr. WAXMAN. What is the message in a bunch of camels to an adult? These are cartoon figures.

Mr. JAMES JOHNSTON. It's fun, just like Snoopy the dog sells Met Life insurance, just like Garfield the cat sells Embassy Suites hotels. We're not accusing them of targeting kids, are we?

Mr. WAXMAN. Well, I think somebody ought to buy some life insurance if they're going to use this product.

Mr. JAMES JOHNSTON. Mr. Chairman, I think I can be helpful to this committee on the subject of what are smokers really getting when they smoke the full flavor and low tar and ultra-low tar. May I speak to that?

Mr. WAXMAN. I have some additional questions and believe you'll get to address these issues in the context of those questions. But first I want to question the assertion that the levels of nicotine have been going down since the 1950's.

Mr. Johnston, you wrote recently to Dr. Kessler that finished cigarettes contain between 1.5 percent and 2.5 percent nicotine. I have a copy of your letter here, which I will mark as Exhibit 23 and put in the record, but I assume you've seen that letter.

Did you send that letter?

Mr. JAMES JOHNSTON. I don't have it in front of me, but I did, indeed, send—

Mr. WAXMAN. Let's get it to you.

Mr. JAMES JOHNSTON. I have a copy of it here with me. Yes, sir. That's my letter.

Mr. WAXMAN. The subcommittee has recently discovered evidence that the nicotine concentrations that you cited are actually higher than the concentrations of nicotine in tobacco in the 1950's.

Specifically, in 1952, a chemist for the FDA determined that nicotine levels in 1952 varied, on average, from 1.58 percent to 1.82 percent. His data is on an exhibit which I'd like to have marked 24 and put in the record.

[Exhibits 23 and 24 follow:]

— Exhibit 23 —

RJ Reynolds
Tobacco Company

February 28, 1994

David A. Kessler, M.D.
Commissioner of Food and Drugs
Food and Drug Administration
Department of Health & Human Services
Rockville, MD 20887

JAMES W. JOHNSTON
Chairman and
Chief Executive Officer

Winston-Salem, N.C. 27102
919-741-7925

Dear Dr. Kessler:

This letter is intended to clarify one simple fact that R.J. Reynolds Tobacco Company does not increase the nicotine in its cigarettes above what is found naturally in tobacco. In fact, our processes reduce the amount of nicotine in cigarettes when compared to unprocessed tobacco.

Reynolds manufactures and sells a broad range of cigarette products designed to appeal to the tastes of today's adult cigarette smokers. Smokers have increasingly demanded lower "tar" cigarettes. As a result of the processes used to lower "tar", nicotine has also been reduced. Over the past 40 years, the average "tar" and nicotine in cigarettes sold in the U.S. has declined by more than 60%.

The variety of cigarettes available is, in large part, a result of blending techniques developed over a long history of cigarette manufacture and research. In addition to traditional tobacco blending techniques, various other techniques are available to cigarette manufacturers, including puffing of tobacco, filtration, air dilution, tobacco reconstitution and others, in order to enable manufacturers to reduce the "tar" and nicotine yields in their cigarettes. As a result of these various techniques, the sales weighted averages of "tar" and nicotine yields in the United States today are 11.5 milligrams and 0.8 milligram, respectively.

In the early 1950's the sales weighted averages of "tar" and nicotine yields were 36 milligrams and 2.7 milligrams, respectively. Most cigarette brands were in a narrow band around this average. Flue-cured tobacco naturally contains 2.5 to 3.5 percent nicotine, burley tobacco contains 2.75 to 4.0 percent nicotine, and Oriental tobacco contains 0.5 to 1.8 percent nicotine in the cured leaf. Finished cigarettes generally contain approximately 1.5 to 2.5% nicotine by weight, less than the natural cured leaf.

Mr. WAXMAN. This chart compares two sets of data on nicotine concentrations. It shows a general trend toward the use of tobacco blends with higher nicotine concentrations over the last 40 years. So I would submit there's really no validity to your claim that nicotine levels are going down.

What do you say about that?

Mr. JAMES JOHNSTON. I would say, once again, I agree with the Surgeon General of the United States. We have gone back and recalculated the Surgeon General's numbers and we agree with them. Now, I don't agree with the Surgeon General on everything, but I agree with the Surgeon General on that.

This is information I have never seen before. I will take this very seriously. I will go back, analyze this, and I will submit, for the record, a response.

Mr. WAXMAN. Isn't it backwards to say that those numbers are really the Surgeon General's numbers that you're relying on? The Surgeon General's numbers are the FTC numbers.

Mr. JAMES JOHNSTON. They are worked through the FTC. Mr. Congressman, again, I believe I can be helpful to this committee on that subject.

Mr. WAXMAN. I appreciate that attitude because I want you to be helpful. I want all of you to be helpful. We've got a health crisis in this country causing an enormous amount of expense and loss of lives and pain and suffering and misery due to cigarettes.

I think we ought to work together to figure out a way to try to lessen that burden. I want you to be constructive, not simply to tell us you don't believe the health statistics that all the medical experts have submitted. You don't believe the Surgeon General's report on nicotine addiction. You don't believe anything but that which serves your purpose, the FTC numbers, which, I would submit, has been challenged by Dr. Kessler in a way that I think reasonable people have to wonder whether those FTC numbers mean anything, because they certainly don't correlate to what a smoker is ingesting through inhaling the smoke.

Have you done human studies to measure the nicotine levels in blood or related to nicotine addiction?

Mr. JAMES JOHNSTON. Mr. Chairman, we have done blood nicotine or continine studies. I would like to submit those to this committee for the record because I think they will be helpful. What those studies show—let's sort of back up to what I'd want to know as a smoker.

Some of the questions that have come up today might well scare me about am I getting more nicotine with a low tar cigarette, is this thing deceiving me, should I switch to a high tar cigarette. I don't believe that's the case.

Mr. WAXMAN. How about switching to no cigarette if you want to avoid the nicotine levels.

Mr. JAMES JOHNSTON. Absolutely.

Mr. WAXMAN. Would you submit to us these studies that you have done, human studies on the levels?

Mr. JAMES JOHNSTON. There is one—

Mr. WAXMAN. I want to ask whether the other Chief Executive Officers will be as cooperative as you are planning to be.

Mr. JAMES JOHNSTON. I'd like to share with you—

Mr. WAXMAN. Would you submit to us, as well, your—

Mr. CAMPBELL. I don't know if we have anything available. I'd have to check.

Mr. WAXMAN. What we want are studies, human studies to measure nicotine levels on blood and studies relating to nicotine addiction. Do any of you refuse to give it or will you be willing to give us whatever you may have? You may not have studies, but if you do, we think we ought to get it and we think you ought to give it. Do any of you refuse?

Mr. SANDEFUR. Mr. Chairman.

Mr. WAXMAN. Yes, Mr. Sandefur.

Mr. SANDEFUR. The work on continine was done by Dr. Gori and that's been published. That's the work that we've done at Brown and Williamson.

Mr. WAXMAN. That one we have.

Mr. DONALD JOHNSTON. Mr. Chairman, we have not done any such studies on our own premises, but as I mentioned earlier, we were involved in grants with the Medical College of Virginia from the 1930's to the 1960's and if any of that information is necessary, fine, we'll cooperate.

Mr. WAXMAN. Mr. Horrigan?

Mr. HERRIGAN. We have done no such testing, but we'll continue to review and cooperate fully.

Mr. WAXMAN. Thank you. Mr. Tisch?

Mr. TISCH. We've done no such studies, but we'll be glad to give them to you.

Mr. WAXMAN. Mr. Taddeo?

Mr. TADDEO. We've done no such studies, but we'll cooperate.

Mr. WAXMAN. And the other two have said yes. Mr. Bliley, I'm going to let you take a turn.

Mr. BLILEY. Mr. Johnston, perhaps you can help us with this issue of the relationship between the amount of nicotine in the tobacco rod and the amount of nicotine in cigarette smoke. Which one is more important and why?

Mr. JAMES JOHNSTON. Clearly, as a smoker, I would say it's what's in the smoke and how much stays in my body. From the very limited—and I wouldn't call this a massive scientific study, but from the very limited work that we've done in this area, which we will provide to this committee.

Think of an FTC number as an EPA gas mileage number. If I drive my car fast, I get less gas mileage than what the sticker says. If I drive it easy, I get more. So it is with the FTC tar numbers. I may smoke one cigarette differently from another. Within a cigarette, I will get different tar and nicotine per puff, depending on how—

Mr. BLILEY. Are you saying that you could get different levels of nicotine from two cigarettes from the same pack?

Mr. JAMES JOHNSTON. Depending on how I smoke it. If I'm under stress—wait till you see the cigarette I light up after this hearing. It's probably going to be a high tar cigarette. It depends on how you smoke it. It depends on how you puff it. But here's the interesting thing we found; again, limited data, that among low tar smokers, the actual amount ingested as opposed to the FTC tar number, taking highs, lows, depending on how you smoke the ciga-

rette, the average was a remarkable .97 correlation, meaning 97 percent accurate.

That's pretty darn good. Now, we have seen studies, and this is important for the chairman because I know he's interested in these studies that talk about smoker compensation. At the very lowest level of tar, I believe that there is evidence to suggest that smokers do compensate, that they do, on an ultra-low, lowest yield product, that they do, in general, compensate. But it's very important to understand that even with that compensation, someone smoking a lowest tar level or an ultra-low or lights or full flavor, each one going up, they ingest and intake less nicotine and tar at each level.

So if I'm smoking a low tar cigarette, could I physically puff it hard enough to get more tar? Yes. But based on the averages, it appears to line up, with some slighter compensation at the low end. I can't state that as a fact, but our review of the literature suggests that.

So a lowest level smoker still is getting less nicotine, but may be compensating up a little bit from what the published number is.

Mr. BLILEY. Do the rest of you agree with that or do you have any quarrel? Do any of you have any quarrel with that?

Mr. CAMPBELL. Absolutely not. The FTC, as Jim has indicated, has some significant constraints in terms of individuals, very much like the EPA mileage. However, it's a relative measurement. It's a good measurement from brand to brand. I think that, most importantly, people should realize that we talk about the dilution holes being covered, people smoking closer to the butt and all of these kinds of things. If you tore the filter off completely and smoked it as a plain-end cigarette, the Merit Ultima, which we sell as a 1 milligram of nicotine, it would still be a low tar cigarette.

So it's important to know that, yes, people do smoke in different ways, but as of this time, we haven't yet seen a better relative measurement.

Mr. BLILEY. The FTC, how do they test a cigarette? What do they actually do with a cigarette to test it for nicotine and tar?

Mr. JAMES JOHNSTON. I can give you a general explanation. I'm sure one of our scientists can give you a better one. But in general, it's inserted in a machine. There is a puff regimen, a puff in 30 seconds, then a puff in 30 seconds. The tar and nicotine are registered on a pad and then chemically analyzed to determine the weight of tar and the weight of nicotine on that pad.

Mr. BLILEY. My purpose in asking the question is—then this machine, I assume, puffs at the same rate always. No difference, whatever the cigarette, whether it's an Ultima or whether it's a regular or whatever.

Mr. JAMES JOHNSTON. It is meant to predict an average that, again, from our very limited research into this, it appears to represent, at least in low tar cigarettes, the average may slightly underestimate the ultra-low.

Mr. BLILEY. If they wanted to, they could step it up, from what you appear to have said before or at least what I've gotten out of what you said before, that if they change that rate, instead of one puff every 30 seconds, that they would do three puffs every 30 seconds, they would get a different rate. They would get different results.

Mr. JAMES JOHNSTON. Correct.

Mr. CAMPBELL. Absolutely.

Mr. BLILEY. Mr. Campbell, the Federal Government is well aware of the ingredients you add to the tobacco in your cigarettes. Haven't you been providing HHS with an annual ingredients list for a number of years?

Mr. CAMPBELL. Yes. We started that back almost 15 years ago.

Mr. BLILEY. Has HHS at any time during this time period issued a report to Congress, as it is authorized to do, citing any health risks associated with any such ingredients?

Mr. CAMPBELL. No, they have not, sir.

Mr. BLILEY. Has HHS ever approached the industry with the results of any studies suggesting that any of the ingredients in cigarettes presented any health risks to smokers?

Mr. CAMPBELL. Absolutely no indications of health risks with our ingredients, sir.

Mr. BLILEY. Have you offered your cooperation to HHS and its review of ingredients?

Mr. CAMPBELL. Repeatedly we have offered our willingness to work with them.

Mr. BLILEY. What was their response?

Mr. CAMPBELL. There has been no response up to this time, sir.

Mr. BLILEY. If HHS had approached the industry with some of the allegations that have been bantered about recently in the press, what would have been your response?

Mr. CAMPBELL. Our response would have been that all of these are generally approved, but that we would be happy to look into these ingredients in any way that they wish to discuss them.

Mr. BLILEY. Is it your understanding that over 90 percent of the ingredients used by major cigarette companies in cigarettes manufactured in the United States are commonly used in food? They either have been approved by the Food and Drug Administration as food additives or they are included on lists of substances generally recognized as safe maintained by the FDA or the Flavor Extract Manufacturers Association?

Mr. CAMPBELL. That is absolutely correct.

Mr. BLILEY. Additionally, governmental bodies or affiliated organizations in other countries, such as Great Britain, Germany, France, Belgium, Switzerland and the Council of Europe, have evaluated the ingredients used in cigarettes and have come up with accepted lists of ingredients?

Mr. CAMPBELL. That's correct and that completes the U.S. domestic manufacturers list, I believe.

Mr. BLILEY. In short, all of the ingredients used by the major American cigarette manufacturers also can be found in one or more of these accepted lists.

Mr. CAMPBELL. That's correct, sir.

Mr. BLILEY. Thank you very much. Thank you, Mr. Chairman.

Mr. WAXMAN. Mr. Synar.

Mr. SYNAR. Thank you, Mr. Chairman. Mr. Campbell, I'd like to enter into the record Exhibit 14, if I could. Can the staff provide Exhibit 14 to Mr. Campbell?

[Exhibit 14 follows:]

EXHIBIT 14

TIMES NEWSPAPERS LIMITED, SUNDAY TIMES

[September 19, 1993, Sunday]

SMOKERS MAY GET A QUICK-FIX CIGARETTE

[By Peter Victor]

With smokers increasingly banished from their workplaces to draughty corridors, the quick nicotine fix is set to get quicker. Industry sources say that Philip Morris, one of the world's biggest cigarette manufacturers, is developing a fast-smoking brand, understood to be code-named "Marlboro Express".

The idea behind Express is that smokers' craving for nicotine can be satisfied in half the time. It works by putting tobacco with a high nicotine yield in the outer end of the cigarette.

If successful, the Express could be worth millions of pounds in Britain. Although the country is increasingly hostile to smokers, 17 million are still hooked on tobacco, spending more than Pounds 10 billion on cigarettes last year.

Last week Philip Morris refused to comment "on stories about products in development".

But Dr. John Slade, addiction specialist at the University of Medicine and Dentistry of New Jersey, said patents confirm that the project is underway. "The patents would help them to produce a cigarette like the Marlboro Express."

Mr. SYNAR. Mr. Campbell, this is an article from the Sunday Times of London, dated September 19, 1993. The article is about a new product Philip Morris is developing on the Marlboro Express. Let me read to you from the article, paragraph 1. Quote, "Industry sources say that Philip Morris is developing a fast-smoking brand understood to be code-name Marlboro Express. The idea behind Express is that smokers craving for nicotine can be satisfied in half the time. It works by putting tobacco with a high yield in the outer end of the cigarette."

Mr. Campbell, is Philip Morris now developing a fast-smoking brand of cigarettes, possibly named Marlboro Express?

Mr. CAMPBELL. If we had a project named Marlboro Express, I wouldn't tell my competitors. But we would not—we are not developing a fast-smoking product in any way.

Mr. SYNAR. Mr. Campbell, let me remind you you're under oath.

Mr. CAMPBELL. Absolutely.

Mr. SYNAR. At any time, now or in the past, have you ever tried to develop a fast-smoking brand?

Mr. CAMPBELL. No, sir, we have not.

Mr. SYNAR. In other words, what you're saying is that the story from the London Times is simply and completely untrue. Is that correct?

Mr. CAMPBELL. If we were to look at products like this, the tars and nicotine would be proportional to their size.

Mr. SYNAR. I didn't ask you that, Mr. Campbell. Let me repeat the question. You're saying the story from the London Times is simply and completely untrue, yes or no?

Mr. CAMPBELL. As it stands, it is untrue, yes.

Mr. SYNAR. Thank you. Mr. Tisch, I'd like to ask you about the 13 billion Kent Microlite cigarettes that Lorillard sold from 1952 to 1975. They were advertised as "Just what the doctor ordered" and which provided "maximum health protection."

That Microlite filter was a blend of 30 percent asbestos and 70 percent cotton and acetate. You are aware that 20 of the 36 workers who worked for Specialties, Incorporated which produced that

cigarette paper and filter, died from asbestos poisoning and lung cancer. One woman died from simply washing her husband's overalls every day. Are you familiar with that?

Mr. TISCH. I am not familiar with those statistics, sir.

Mr. SYNAR. Is the advertising campaign that your corporation presently uses as inconsistent and untrue as it was from 1952 to 1957?

Mr. TISCH. Could you repeat the full question, sir?

Mr. SYNAR. The question is—you advertised Kent Microlite cigarettes from 1952 to 1957 with the following advertising slogan, "Just what the doctor ordered" and "maximum health protection." That's not very honest advertising. Is that the same kind of advertising you all do today?

Mr. TISCH. I do not recall that campaign.

Mr. SYNAR. Mr. Johnston, you testified that if the FDA takes jurisdiction over cigarettes, it would result in the ban on those cigarettes. You are familiar with my bill. I'm sure you were briefed in anticipation of this hearing. You are familiar with the fact that my bill specifically prohibits the FDA from banning cigarettes, are you not?

Mr. JAMES JOHNSTON. I have been through your bill. I don't recall the exact details. I did read, however, a quote attributed to you in a national journal saying that FDA regulation would effectively mean the end of this industry.

Mr. SYNAR. Only if the FDA finds that the ingredients are not safe. Isn't that correct? Because the standard the FDA has is the safe and effective standard. Therefore, if the products are found unsafe, they would have no option but to ban it. Is that correct?

Mr. JAMES JOHNSTON. Based upon the view expressed by a number of members of this committee that this is—

Mr. SYNAR. Let's go back to square one. Are you familiar with my legislation? Mr. Johnston, are you aware that my legislation specifically directs the FDA not to ban cigarettes? Yes or no?

Mr. JAMES JOHNSTON. But it requires them to prove that the product is safe, as I recall.

Mr. SYNAR. No. It gives them the opportunity to review the product. You are assuming that once they take jurisdiction and review it, that they will find that the ingredients are unsafe. Is that not correct?

Mr. JAMES JOHNSTON. Based upon the view expressed by you and others on the committee that this product kills—

Mr. SYNAR. Are the ingredients safe in cigarettes, Mr. Johnston?

Mr. JAMES JOHNSTON. All of the ingredients that we add to our product have been thoroughly reviewed. They've been in the possession of the U.S. Government for 10 years. The Surgeon General of the United States testified before Congress saying he didn't see that ingredients were a significant problem.

But are you asking me to tell you that cigarettes are safe? Is that what you're saying?

Mr. SYNAR. That's correct.

Mr. JAMES JOHNSTON. No. I cannot say that. I have acknowledged, I believe, that cigarettes are a risk factor.

Mr. SYNAR. You're familiar, also, Mr. Johnston, with the Synar amendment which would require States to enact and enforce bans on cigarette sales to minors, are you not?

Mr. JAMES JOHNSTON. Mr. Congressman, there are so many pieces of legislation affecting the industry—

Mr. SYNAR. Mr. Johnston, I'm not new to this subject. You're familiar with my legislative career in this area, are you not?

Mr. JAMES JOHNSTON. I am, indeed.

Mr. SYNAR. OK. You're familiar with the legislation that would enforce the ban of cigarette sales to minors, yes or no? Mr. Campbell, are you familiar with it?

Mr. CAMPBELL. I, like Mr. Johnson, am only generally familiar and not specifically familiar.

Mr. SYNAR. Let's be real here, folks. You're the CEO's of major companies. This legislation, which passed last year, has a major impact on the distribution of your product to minors, and you're telling me as you sit there that you're only vaguely familiar with the legislation.

Let me ask you this. You said earlier today that the tobacco industry has been doing everything possible at the State legislative level to push for these kinds of minor bans from smoking. In order to make sure these laws are effective, why don't you all commit today to me to financing the State funding of sting operations of retail units? Will you commit to that today, Mr. Johnston, at this end?

The question is since you all are so committed to keeping cigarettes out of the hands of minors, will you commit to this subcommittee that you will help finance sting operations within States to try to catch minors who may be doing it? Will you help provide the money for sting operations on the State level by which to enforce the law?

Mr. DONALD JOHNSTON. I'm not sure that additional financing is required, other than the revenues that are already generated from—

Mr. SYNAR. I'll take that as a no. Mr. Sandefur?

Mr. SANDEFUR. No.

Mr. SYNAR. Mr. Horrigan?

Mr. HERRIGAN. I don't see that's our role.

Mr. SYNAR. Thank you. Mr. Tisch?

Mr. TISCH. No, sir.

Mr. SYNAR. Mr. Taddeo?

Mr. TADDEO. I don't think that's our role.

Mr. SYNAR. Mr. Johnston?

Mr. JAMES JOHNSTON. I have outlined our programs this morning. Smokers pay \$13 billion a year in excise taxes and some—

Mr. SYNAR. Mr. Johnston, will you provide money for sting operations within the State?

Mr. JAMES JOHNSTON [continuing]. Portion of that is—

Mr. SYNAR. Yes or no?

Mr. JAMES JOHNSTON. No.

Mr. SYNAR. OK. Mr. Campbell?

Mr. CAMPBELL. No.

Mr. SYNAR. A disingenuous commitment, I would say. From 1972, Mr. Johnston, there's a memo to the Tobacco Institute Presi-

dent Horace Kornegay from Fred Panzer, who, I believe, was the Vice President of the Institute at that time. In fact, let me ask this of Mr. Campbell. It laid out the industry strategy and let me read you from that memorandum, Mr. Campbell.

It says "For nearly 20 years, this industry has employed a single strategy to defend itself on three major fronts—litigation, politics and public opinion." Is that the strategy that drove you to sue ABC?

Mr. CAMPBELL. No, sir.

[The memorandum referred to follows:]

Mr. SYNAR. Mr. Campbell, earlier in questioning about the Joe Camel ads, I asked you whether or not you all had done any market research with respect to the impacts of the Joe Camel ad by your competitor. Your response at the time is "not specifically." What did you mean by that?

Mr. CAMPBELL. I don't know whether we've done any research of Joe Camel. If we have, I guess it would be available to you.

Mr. SYNAR. And you would tell us and provide that to the committee.

Mr. CAMPBELL. Yes.

Mr. SYNAR. All right. And the same for all you gentlemen, even if it's not specifically involved with Joe Camel.

Mr. CAMPBELL. I'm sorry. I'm committing to a competitive act which I really can't do. I'm sorry.

Mr. SYNAR. Excuse me?

Mr. CAMPBELL. Well, as Mr. Johnston was saying before, I can't share competitive information without appropriate—

Mr. SYNAR. I'm not asking for competitive information. I'm asking you for studies that you have done on the effectiveness of the Joe Camel advertising campaign.

Mr. CAMPBELL. I'll check into it. I don't know whether we have.

Mr. SYNAR. Will you or will you not provide that information for the committee?

Mr. CAMPBELL. These general requests are getting very broad. Can we not discuss—

Mr. SYNAR. No. That's not broad at all, Mr. Campbell. I am asking you that with respect to the issue of Joe Camel, if your company has done some research with respect to the effect of that advertising campaign, will you provide that information to the committee?

Mr. CAMPBELL. We are extremely concerned about competitive activity in view of the fact that we—

Mr. SYNAR. Yes or no, Mr. Campbell?

Mr. CAMPBELL. I will do my best, yes.

Mr. SYNAR. Mr. Chairman, that concludes this. May I take this opportunity as we come to a close of this hearing to say that I think I've learned a lot here today. I've learned, in particular, that when you're paid the exorbitant amounts of money that the seven of you are, you can create new reality, new reality of whether or not nicotine really is addictive, reality of whether or not \$4 billion is targeted towards children, and the new reality of whether or not you have any corporate responsibility to consumers.

I thank God that the rest of the corporate community in this country doesn't accept that same corporate responsibility. Thank you, Mr. Chairman.

Mr. WAXMAN. Thank you, Mr. Synar. I have some questions. This will be my last round of questions and I think Mr. Wyden may return with a few questions. I want to get some things on the record. But before I just ask some very specific questions for which you will be able to give, I think, specific answers, I do want to raise with you, Mr. Campbell, an issue in the State of California.

A letter has gone out to people all over the State asking that they sign a petition to restrict smoking in public places. The initiative that they're trying to get on the ballot is described as some-

thing that will strictly protect the non-smokers, with strict regulations and tough smoking restrictions. But, in fact, this is a campaign paid for by the Philip Morris Company, which you can see on the small print. Californians for Statewide Smoking Restrictions, a committee of restaurants, hotels and Philip Morris, Inc.

What I understand this petition would put on the ballot is a preemption of all the local laws that do protect the non-smokers. In fact, it would weaken existing laws with a statewide standard. I want to express to you my concern about this. I don't know if you're familiar with it or not.

I would hope that you would see this as an inappropriate action on the part of your corporation to try to mislead people who want strict regulations into preempting stricter regulations at the local level by deception.

I ask that you look at this and I would hope that as you evaluate it, we can get a more favorable response. I would like to get a response from you for the record on that point.

Mr. CAMPBELL. I am somewhat familiar with the program. I think that the restaurant owners and people in the lodging and hotel business and things like that, they want standardization of smoking restrictions in the State and we are legitimately funding that work because the vast majority of Americans want smoking handled in an accommodative way.

I think you probably saw the Time Magazine poll this week that showed that most Americans want accommodation. They want separate smoking and non-smoking sections, and, yes, we support that.

Mr. WAXMAN. I, without objection, will put this document in the record with regard to what I consider a misrepresentation to people who sign it for the very purpose of getting the strongest regulation of EIS.

[The document follows:]

First Class
U.S. Postage
PAID
San Francisco
CA
Permit #1642

PETITION RESPONSE EXPRESS PAK

*Enclosed is the
petition to restrict
smoking in public places
you requested!*

Attention: Donna M.

Callahan for Statewide Smoking Restrictions, A Committee of Restaurants, Hotels and Philip Morris, Inc., P.O. Box 41436, Sacramento, CA 95841-0415

Mr. WAXMAN. And by the way, I do support uniform regulations so that we don't have one jurisdiction with one law and another jurisdiction with another or one business that tries to do something voluntarily, being placed at a competitive disadvantage. That's why I introduced H.R. 3434. That bill would say that smokers have the right to smoke in separately ventilated areas.

I would like to ask each of you to look at that legislation. If you really are sincere in your statement that you want to give smokers a choice to continue to smoke, you certainly ought to give those who don't want to smoke the choice not to have to breathe in someone else's tobacco smoke. I would add that this is especially important in light of the information from the Surgeons General back to the Nixon administration as well as the present Surgeon General and the Administrator of the Environmental Protection Agency, that ETS is not just a nuisance, but a threat to health.

Mr. Campbell, earlier you admitted that Dr. DeNoble's work was part of developing analogues that were reinforcing, but did not have peripheral effects. What was the point of this work, do you know?

Mr. CAMPBELL. I've tried to study up on it in general terms, but my colleague, Dr. Ellis, can be more specific, if you don't mind. Is that all right?

Mr. WAXMAN. Sure. Let's hear from her.

Ms. ELLIS. As you've already indicated, it's very important for a consumer products company to understand its product. The work that we have undertaken is—the goal of it was to do just that. The goal of the comparative psychology program and the nicotine analog program was to understand the cigarette and the product and to be able to deal with the issues and the opportunities that we might get from that. The program actually started in 1965.

Mr. WAXMAN. Why would you look at those analogues? Were you trying to develop a compound that would mimic or take the place of and act as a substitute for nicotine?

Ms. ELLIS. We were looking at nicotine biochemistry, nicotine effects, and nicotine effects in a number of different industries. Our first interaction was with pharmaceutical companies and they did a lot of screening for us on all effects of these analogues, including agricultural uses.

Mr. WAXMAN. Were you trying to see if the analogues were reinforcing?

Ms. ELLIS. We were trying to look at the CNS effects of some of the analogues, yes.

Mr. WAXMAN. CNS means?

Ms. ELLIS. Central nervous system.

Mr. WAXMAN. Were you trying to find a nicotine substitute that wouldn't adversely affect the heart or any other part of the body?

Ms. ELLIS. If there were some in that category, definitely.

Mr. WAXMAN. Thank you very much. Mr. Johnston, let me ask you about RJR's process for nicotine control. Specifically, do you monitor the nicotine levels in the tobacco leaves you use to make cigarettes?

Mr. JAMES JOHNSTON. Yes, we do.

Mr. WAXMAN. Speak into the mike. The answer is?

Mr. JAMES JOHNSTON. Yes, Mr. Chairman, we do.

Mr. WAXMAN. How carefully do you monitor nicotine and alkaloids during the production process? Could you identify each step during the production process, starting with the harvesting of the tobacco, at which RJR measures or otherwise monitors the nicotine or alkaloid levels in cigarettes?

Mr. JAMES JOHNSTON. Let me ask one of my associates if they can better answer that than I.

Mr. SCHINDLER. Could you repeat the question?

Mr. WAXMAN. What I want to know is how carefully you monitor nicotine and alkaloids during the production process, starting with the harvesting of the tobacco and other measures to monitor the nicotine or alkaloid levels in cigarettes?

Mr. SCHINDLER. In our stemery, which is where we take the leaf after we bring it in from the market, where we process the leaf to separate stems from the end product we call strips, we take samples of the bale of tobacco, of stripped tobacco, and identify sugars and nicotine level in those bales of tobacco.

From there, they are then moved to various storage sheds and they could be stored anywhere from 18 months to 2 years or so before they're actually used in the production process. The nicotine level and the sugars are identified in each of those bales.

Mr. WAXMAN. What use do you make of these measurements in the design and manufacture of cigarettes?

Mr. SCHINDLER. Our cigarettes are designed to deliver a tar level and a taste to our consumers. Part of the taste profile is related to the nicotine. I don't know if you remember earlier I talked about how the moisture or the rainfall in a given year will determine the concentration of the nicotine in a leaf.

For example, in a year that's dry, you'll have a smaller leaf. You'll have the same weight of nicotine, but it will be on a smaller leaf and that has a much more bitter sharp taste to it. Because it's an agricultural product, it varies over the years. So the nicotine helps, in terms of its concentration, for the blending process to determine its smoothness and in terms of the target taste profile in the end product.

Mr. WAXMAN. Mr. Johnston, given RJR's interest in quality control, is there a point in the manufacturing process where nicotine which is lost due to processing is restored and could you identify each of the manufacturing procedures utilized by your company to adjust upwards, however incrementally, the nicotine level of your product?

Mr. SCHINDLER. Yes.

Mr. WAXMAN. I'm sorry.

Mr. SCHINDLER. We do not restore any nicotine anywhere in our process. We lose nicotine in the process. We lose nicotine, for example, in the reconstituted sheet process, which handles the byproducts from that stemery that I just discussed. Typically, the byproducts that enter into the reconstituted sheet process might have 1 percent nicotine and by the time they finish the reconstituted sheet process, they would be at 0.85. There's somewhere around a 10 or 15 percent loss there.

So, generally, throughout the process, from the time we take our tobacco in, you will find a loss of nicotine and no where in that process is any nicotine being incrementally added into the process.

I would like to point out that in previous answers to questions earlier, there was discussion about alcohol—

Mr. WAXMAN. That was mentioned in previous testimony and that's a minute amount. Is that correct?

Mr. SCHINDLER. Pardon me?

Mr. WAXMAN. That's a minute amount.

Mr. SCHINDLER. Yes. Minute.

Mr. WAXMAN. Let me just ask the others, and I'm going to ask you to submit this for the record, we would like to know each step during the production process where you monitor for nicotine, the nicotine or the alkaloids from the harvesting of the tobacco to the cigarettes themselves, the level in cigarettes. We'd also like to know whether there's a point in the manufacturing process where nicotine which is lost due to processing is restored, if you would all submit that for the record.

Also, identify each of the manufacturing procedures utilized by your company to adjust upwards, however incrementally, the nicotine level of your product.

Then I would ask each of you this question. Other than through blending or reconstitution, there are other methods that have been described for changing nicotine levels, using tobacco extract with nicotine or spraying on the tobacco or adding it to the filter or adding it to the paper or designing the filter so more nicotine gets to the smoker. I'd like to know which of these methods have you actually conducted research on and which of these methods are you actually using and which of these methods have you ever used in the past. Perhaps you can respond to that question.

We will ask you to submit that for the record, as well, rather than go through that now. We think it's important. Now, I'm assuming, since no one is standing up and saying no, that you're all going to cooperate and give us the answers to those points. Does anybody disagree?

Mr. SANDEFUR. Mr. Chairman, the explanation for the processing and measuring nicotine that Mr. Schindler outlined that R.J. Reynolds used is the same for my company.

Mr. WAXMAN. Perhaps you can tell us that for the record in writing. That shouldn't be any difficulty for you to put down. Has RJR done studies on how much nicotine is actually received by the smoker?

Mr. JAMES JOHNSTON. Yes, Mr. Chairman. I brought that to your attention earlier. That is very limited information, but I think it could be of value to this committee in understanding the predictive value of the FTC.

Mr. WAXMAN. Can you make that available to us?

Mr. JAMES JOHNSTON. I would ask you if you would take that information.

[The information follows:]

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Mr. WAXMAN. There's been a lot of interest in tobacco extract and whether nicotine is added by use of a tobacco extract. Mr. Johnston, has RJR ever used tobacco extract or any of its products sold domestically or abroad?

Mr. JAMES JOHNSTON. Not to my knowledge, Mr. Chairman.

Mr. WAXMAN. Maybe your research advisor.

Mr. JAMES JOHNSTON. Pardon me. In Premier, there was a spray dried tobacco extract used. In our Winstons and Camels and so forth, that is not the case.

Mr. WAXMAN. Let me get for the record from each of you whether you've ever used tobacco extract and how much nicotine was in the tobacco extract. That means submit it to us in writing for the record. Mr. Wyden, you're the last one for questions.

Mr. WYDEN. Thank you, Mr. Chairman. Let me start this round on some matters involving the ingredient situation. Mr. Taddeo, and I hope I'm not doing violence to the pronunciation of—

Mr. TADDEO. Taddeo.

Mr. WYDEN. Excuse me. I noted yesterday that the ingredients from the smokeless tobacco industry were not included in the industry disclosure yesterday. Is your organization prepared to make your ingredient list public, as well, on the additives?

Mr. TADDEO. Mr. Wyden, you have to appreciate that that was a surprise to us yesterday. I haven't had a chance to speak to the other members of the industry, the smokeless tobacco industry. I can't speak for them. But I know we'll be meeting shortly on that subject.

Mr. WYDEN. Do you personally favor making smokeless tobacco additives public?

Mr. TADDEO. The ingredient list?

Mr. WYDEN. Yes.

Mr. TADDEO. I personally don't have a problem with it.

Mr. WYDEN. OK.

Mr. TADDEO. Nothing to hide.

Mr. WYDEN. Gentlemen, maybe this question directed to you, Mr. Johnston, if I could. Does the list of additives you supplied the Secretary of Health and Human Services include all additives to paper, filters and to non-tobacco smokable materials in the tobacco rods of cigarettes?

Mr. JAMES JOHNSTON. Please repeat the question. I didn't quite hear.

Mr. WYDEN. What we want to know is whether the list that you give the government includes all the additives to paper, filters, and non-tobacco smokable materials that are in the tobacco rods of your cigarettes.

Mr. JAMES JOHNSTON. I do not believe that it covers those. It may cover some, it may not. I will clarify that for the record.

Mr. WYDEN. That will be fine. Would you supply the committee with lists of these additives, if those aren't given over to the government?

Mr. JAMES JOHNSTON. I see no reason why not. I would prefer that we do that on an industry basis so we're not revealing brand-specific data.

Mr. WYDEN. Let me ask you a couple of other quick questions with respect to the ingredients. A preliminary analysis of your

most recent submissions reveal 13 ingredients that don't appear on the Food and Drug Administration's current list of everything added to food in the United States.

Mr. Chairman, at this time, I would ask unanimous consent that a report prepared at the subcommittee's request by the Centers for Disease Control on the toxicity of these ingredients be placed into the record.

Mr. WAXMAN. Without objection, that will be the order.
[The information follows:]



DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

Centers for Disease Control
and Prevention (CDC)
Atlanta GA 30333

March 24, 1994

The Honorable Henry A. Waxman
Chairman, Subcommittee on
Health and the Environment
Committee on Energy and Commerce
House of Representatives
Washington, D.C. 20515-6118

Dear Mr. Waxman:

I am responding to your letter regarding ingredients added to tobacco during the manufacture of cigarettes.

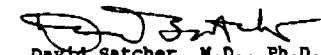
The 13 ingredients you reference were identified from the 1992 lists of ingredients added to tobacco during the manufacture of cigarettes submitted by the cigarette manufacturers. A brief description of the use of each of the 13 ingredients and associated adverse health conditions is enclosed. We will coordinate with the Food and Drug Administration regarding specific health concerns which might preclude the use of these substances as additives in food products under the Federal Food, Drug and Cosmetic Act.

Many of the approximately 700 ingredients added to tobacco could be causes of diseases or potential adverse health effects, if a sufficiently high dose is ingested. Without information about the specific dose, combination of ingredients, and how and when ingredients are added during the manufacturing process, we are unable to determine health risks that might result from any of the ingredients. With respect to your question about the effects of combustion and inhalation, we do not know what potentially harmful byproducts may be produced when tobacco additives are burned alone or in combination, as they are in cigarettes.

The Comprehensive Smoking Education Act stipulates that cigarette ingredient information provided to the Department of Health and Human Services (HHS) be treated as trade secret or confidential information subject to Section 552 (b)(4) of Title 5, United States Code, and Section 1905 of Title 18, United States Code. The enclosed information is being provided in accordance with the provisions of the Act which authorize HHS to provide cigarette ingredient information to duly authorized committees and subcommittees of Congress upon request.

Please let me know if we can be of further assistance.

Sincerely,


David Satcher, M.D., Ph.D.
Director

ATTACHMENT 1 (continued)

General Characteristics*
of 13 Non-XAFUS Cigarette Ingredients from the 1992 list

515-03-7

Sclareol is an essential oil that is extracted from the flower and stem of the plant *Salvia sclarea*. It is used in the agricultural industry to control powdery mildew in crops, and by the perfumery industry as an odorant. No reproductive, developmental, subchronic, chronic, or carcinogenicity toxicity data were found in the reviewed literature.

564-20-5

Sclareolide, a derivative of sclareol (515-03-7) is used to enhance the sweetness and flavors of condiments, cheeses and other foods. No reproductive, developmental, subchronic, chronic, or carcinogenicity toxicity data were found in the reviewed literature.

585-88-6

Maltitol, when orally administered to pregnant rabbits, increased early resorptions and post-implantation losses. There were no adverse effects on the dams or teratologic effects on surviving pups. No reproductive, developmental, subchronic, chronic, or carcinogenicity toxicity data were found in the reviewed literature.

614-99-3

Ethyl Furoate is a liquid with only slight irritant potential on contacted tissues. It is severely toxic when parenterally administered into rats. It has narcotic and anesthetic properties but is apparently devoid of convulsive potential. No reproductive, developmental, subchronic, chronic, or carcinogenicity toxicity data were found in the reviewed literature.

13215-88-8

4(2-Butenylidene)-3,4,4-trimethyl-2-cyclohexen-1-one, also known as **megastigmatrienone** is a volatile, odorous substance, used to attract insect pests that infest stored foods and tobacco. It is found in cigarette smoke condensate. No reproductive, developmental, subchronic, chronic, or carcinogenicity toxicity data were found in the reviewed literature.

13341-72-5

Dimethyltetrahydrobenzofuranone is a mint derivative used as a flavorant in Europe, found in German tobacco products and Swiss toothpaste. No reproductive, developmental, subchronic, chronic, or carcinogenicity toxicity data were found in the reviewed literature.

***NOTES:**

These substances were identified by comparing the ingredients added during the manufacture of cigarettes, as submitted by the cigarette companies in 1992, with those ingredients appearing on the FDA's list of approved food additives: "Everything Added to Food in the United States." Because the cigarette ingredient lists do not provide information on the quantity of ingredients per cigarette, the following information describes general characteristics of the substances.

Mr. JAMES JOHNSTON. I can be helpful on that issue, too, Mr. Congressman.

Mr. WYDEN. Mr. Johnston, one of these ingredients is nicotine sulfate. The CDC notes that this is a very toxic compound and it's the main precursor of a suspected carcinogenic nitrosamine. Have any of you, you or any of the others, used nicotine sulfate as an ingredient in the manufacture of cigarette products?

Mr. JAMES JOHNSTON. That issue has been addressed in every oral statement I heard, every written statement I heard, and probably a dozen questions today. I will repeat it again for the record.

Mr. WYDEN. Let's get it on the record.

Mr. JAMES JOHNSTON. We are required by the BATF to use that as the only thing we can use as a denaturing agent in alcohol. Alcohol is what carries flavors and deposits them on the tobacco. Its presence is not detectable in the final product. That is how little of it is used. It is vaporized—

Mr. WYDEN. Who says that? Who says that it's not detectable?

Mr. JAMES JOHNSTON. As you know, we have had six eminent independent toxicologists review these ingredients. I'd like to comment on this list of 13 ingredients. It is erroneous. Please let me say for the record that five of the items on that list are not used at all by the six major U.S. manufacturers.

Of the remaining ingredients, one is a processing agent that is not detectable in the finished product. Three are, in fact, approved for use in food. Others occur naturally in various food products and are present in cigarettes at trace levels, meaning parts per million.

Mr. WYDEN. Let's be clear. What I have from the Centers for Disease Control was dated March 24 of this year. They said it was 13 based on the 1992 list, which is the last list given to the government. So I think we want to be clear that that's what the Centers for Disease Control said.

But more important, I think it needs to be noted, Mr. Johnston, that over the last 24 hours, the tobacco industry has declared once again that all is well, ingredients are safe, everybody doesn't have to worry, set it out of your mind. But let me read you what the Centers for Disease Control said on March 24.

They said, and I quote, "Without information about the specific dose, combination of ingredients and how and when ingredients are added during the manufacturing process, we are unable to determine health risks that might result from any of the ingredients."

Now, you all may have, in fact, been able in the last 24 hours to do a real sugar-coating job on this ingredient issue and try to convince people, including some in the press, that all is safe.

But the official declaration of the government, the Centers for Disease Control, in a letter, March 24, 1994, does not agree with that particular assertion. And until the government gets the specific quantity of the chemical involved, it is very clear that the government cannot ascertain safety.

I got my list yesterday. I was not given any specific dosage information, not given any dosage information on brands. I hope that that information will be forthcoming. You have, again, given us in your testimony a statement that there is nothing to worry about, we need not be concerned.

I just hope that we can get specific dosage information so that independent scientists can make that declaration. I would be pleased if that was the case, but I will tell you, as one Member of Congress, I am not prepared to say just because some toxicologists that you all have hired, that does it.

The Centers for Disease Control says that that is not acceptable to them on the safety issue.

Mr. JAMES JOHNSTON. Did the CDC also tell you that additional information—we have provided it? The U.S. Government has had this information for 14 years and you're accusing us of hiding something. Ridiculous.

Mr. WYDEN. We don't question for a second that all through the 1980's public health officials made little or no use of that list. We documented the number of requests. There were virtually none. But we've also been told, and Dr. Roper, the previous head of the CDC, said that he was not able under the law to get the quantity information.

Since he couldn't get quantity information, he felt research was really quite meaningless. You all can resolve this issue, it seems to me, by giving to Federal health officials quantity information about these ingredients. I hope that can be done. I think that is what is essential to really deal with this issue.

Mr. Chairman, I'd be happy to yield. I had one other area I did want to ask about.

Mr. WAXMAN. If you would do it briefly because your time has expired and I think we're ready to conclude the hearing. But I don't want to cut you off.

Mr. WYDEN. All right. I did want to ask one other question because it dealt with a matter Dr. Spears was involved with, as well. It may be appropriate for you, Mr. Tisch. This involves the fire-safe cigarette issue.

It seems to me that your industry is virtually outside the consumer protection laws overall, but it is certainly clear that that is the case in the fire-safe area.

Each year, cigarette-ignited fires cause \$400 million in property damage, 1,200 in death. We've got fire safety standards for sleepwear, children's sleepwear and a variety of other things. These standards are designed to protect the public from fires ignited by your products.

Yet, your industry opposes issuance of Federal standards in this area. Now, the tobacco industry has been able to delay consideration of Federal fire-safe cigarette standards through two Federal task forces.

Mr. Tisch, are you aware that in 1987, one of these Federal task forces included Dr. Spears and it determined—one of these task forces, with your staff person, Dr. Spears, determined that a fire-safe cigarette was technically and economically feasible?

Mr. TISCH. I'm going to let Dr. Spears—

Mr. WYDEN. But were you aware? He served. He works for your company. You're the CEO. Were you aware that he was on this task force that found you could make a fire-safe cigarette and we could keep a lot of folks from getting hurt?

Mr. TISCH. I may have been aware because I know that he's been very involved in the fire-safe cigarette issue for many, many years.

Mr. WYDEN. But you're not real sure.

Mr. TISCH. I'm not real aware.

Mr. WYDEN. Mr. Campbell, one of these task forces also concluded that five cigarettes were less ignition-prone than other cigarettes on the market. Yet, the tobacco industry argues that fire-safe cigarettes are not feasible because they are too hard to draw on, they don't taste good and they don't have good mouth feel.

Mr. Campbell, I gather one of your brands, Virginia Slims, was one that the task forces said were less ignition-prone. Are you saying that your brand is too hard to smoke and doesn't taste good?

Mr. CAMPBELL. That particular brand is too hard to smoke and doesn't taste very good, but that's not the issue at hand. We're talking about people and loss of life in terms of fires. I must tell you that this industry and certainly my company is absolutely dedicated to trying to develop a fire-safe cigarette, if it's possible. We have not been able to do so up until this time, but we are diligently working on it and we'll continue to work on it.

Those five cigarettes which you spoke about, in the real word, on a real world test with real fabric, those results are reversed. So, unfortunately, we're not there yet, but we're working very hard with Chairman Moakley to develop a feasible test and from there we'll try to move on to develop products that will improve the fire-safe situation.

Mr. WYDEN. Mr. Campbell, I understand that your company is currently the subject of a potential antitrust action by the Department of Justice over your refusal to develop a fire-safe cigarette, is that correct?

Mr. CAMPBELL. I don't know of that, sir.

Mr. WYDEN. My understanding is that that was the case. You're not aware of that. You're not aware of whether the case—in fact, let's just ask about it—involves a previously secret research plan undertaken by Philip Morris called Project Hamlet.

Mr. CAMPBELL. I know of Project Hamlet. It's our fire-safe—it was our fire-safe ignition propensity project of the 1980's.

Mr. WYDEN. Do you admit that through Project Hamlet, Philip Morris developed the capability to manufacture a fire-safe cigarette that is acceptable to consumers and could have saved the lives of hundreds of children?

Mr. CAMPBELL. Absolutely not, sir. We could not accept ourselves if we had invented a fire-safe cigarette. We have not done so up until this time.

Mr. WYDEN. Would you make Project Hamlet available to the public?

Mr. CAMPBELL. Project Hamlet?

Mr. WYDEN. Yes. That's the research effort. That's what we're talking about.

Mr. CAMPBELL. This is very, very, very competitive information. We are trying very hard to develop a fire-safe cigarette.

Mr. WYDEN. Will you make any information available to either this subcommittee or the public in a fashion that would protect this gravely critical and private information?

Mr. CAMPBELL. I'm making the information public now. We have not yet developed a fire-safe cigarette.

Mr. WYDEN. The fact of the matter is that these Federal task forces indicate that it is technically and economically feasible. I've heard the head of the Consumer Product Safety Commission express great frustration over the inability to get these products out.

Again, what we've got is a situation where independent experts say it can be done and people with a vested interest and economic interest say otherwise. That is of course, the pattern of what we have seen today. It started, I guess, Mr. Chairman, more than 6 hours ago, where we began to talk about whether nicotine was addictive. I brought out and our colleagues did all these studies, all these experts, saying nicotine was addictive.

What we found, lo and behold, is the one organized body of thought that says it's not are people with a financial interest to say that nicotine is not addictive. That pattern has continued through the day.

I'm hopeful that today's hearing will help us build support for the important legislation and work of the committee. Mr. Chairman, I want to thank you and the staff for a hearing of more than 6 hours and I think it's brought to light many important issues for the public.

Mr. WAXMAN. Thank you, Mr. Wyden. First of all, I want to ask unanimous consent that we leave the record open. We may have additional requests for documents, which we would like to put in the record. I'd like to ask this panel, if you would, to answer additional questions from members of the committee, should there be any, in writing for the record.

We will keep the record open for that purpose. I appreciated Mr. Campbell's willingness to allow Dr. DeNoble to present scientific and medical information. I would request that if we have individuals who have conducted scientific or medical research in conjunction with your corporations, that you cooperate with us so that we will have the benefit of that information, as well as has Philip Morris done in regard to this one researcher.

Let me tell you, in closing, that it's been a long day. We've gone through many different subjects. These are important areas for inquiry. We haven't resolved, obviously, the disputes that we have, but I think we got a lot of information on the table and I hope a new basis for which we can work together to resolve those issues, where we will be able to agree in the future, because it's in the public interest.

Mr. Bliley?

Mr. BLILEY. I want to thank these gentlemen and their companies for coming. I think you've been most forthcoming with this committee and I know it's been a long day. Thank you, gentlemen.

Mr. WAXMAN. Thank you. That concludes our business for today and we stand adjourned.

[Whereupon, at 3:20 p.m., the subcommittee was adjourned, to reconvene at the call of the Chair.]

[The following letter was received for the record:]



JAMES W. JOHNSTON
Chairman and
Chief Executive Officer

Winston-Salem, N.C. 27102
919-741-7925

May 3, 1994

The Honorable Henry Waxman
U. S. House of Representatives
Committee on Energy and Commerce
Subcommittee on Health and the Environment
2415 Rayburn House Office Building
Washington, DC 20515

Dear Mr. Chairman:

I attach for the record of your Subcommittee's hearing of Thursday, April 14, 1994, the following information:

1. Three charts referred to by Representative Thomas Bliley and by me at pages 78 through 81 of the transcript of the Subcommittee's proceedings. The first is entitled "1954-1986 Sales-Weighted Average 'Tar' and Nicotine Yields" which Representative Bliley pointed out was taken from the 1989 Surgeon General's Report. The second entitled "Sales-Weighted Nicotine and 'Tar' Levels in Smoke As % of 1982 Levels" was referred to by Representative Bliley as taken from Dr. Kessler's testimony before your Subcommittee on March 25, 1994. The third, entitled "Sales-Weighted Average 'Tar' and Nicotine As % of 1982 Levels" is the chart referred to by me as reflecting calculations by R. J. Reynolds of the approximately 500 brand styles during the period 1982 through 1993.

Of the three charts, only Dr. Kessler's indicates an increase in nicotine levels over the past ten years. We have contacted the FDA and have offered to provide to them our data and calculations and have offered to meet and confer with them to resolve inconsistencies. To date, the FDA has not accepted our offer.

I ask that these three charts be inserted into the official record of this Subcommittee's proceedings at the point they were referred to during the course of testimony.

While we do not question that Dr. Kessler relied on data supplied by the Federal Trade Commission in preparing his chart, his chart apparently does not reflect the correct average sales-weighted "tar" and nicotine yields. This would explain the discrepancy between Dr. Kessler's chart and the chart that appears in the Surgeon General's 1989 report, as well as the chart that we prepared for the April 14 hearing. Both the Surgeon General's chart and our

"We work for smokers."